

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**(Case No. 97,338-A3)**

In re Application of:	)	
	)	
DRUYOR-SANCHEZ, et. al	)	
	)	Group Art Unit: Not yet assigned
Serial No.: Not yet assigned	)	
	)	Examiner: Not yet assigned
Filed: June 29, 2001	)	
	)	
For: Automated Biological	)	
Reaction System	)	

Commissioner for Patents  
Washington, DC 20231

Sir:

**PRELIMINARY AMENDMENT**

Dear Sir:

Please enter the following preliminary amendment in the above-referenced patent application.

**IN THE TITLE**

Applicants wish to amend the title from "Automated Biological Reaction System" to "Fluid Dispenser."

**IN THE SPECIFICATION**

At Page 2, line 1:

**CROSS-REFERENCE TO RELATED APPLICATIONS**

This application is a continuation of U.S. Patent Application Serial No. 09/483,218 (pending) filed on January 14, 2000, which is a divisional of U.S. Patent Application Serial No. 08/995,052, filed on December 19, 1997, now U.S. Patent No. 6,045,759, which is a

continuation-in-part application to United States Patent Application Serial Number 08/909,335  
filed on August 11, 1997, now U.S. Patent No. 6,093,574.

### IN THE CLAIMS

Please cancel claims 1-80 without prejudice. Please add the following claims. A list of the added claims is attached hereto on pages separate from the amendment in accordance with 37 CFR 1.121(c)(1)(ii).

81. (New claim) A fluid dispenser comprising:

a barrel having a reservoir chamber, a valve and a piston, the reservoir chamber containing fluid, the valve at a lower portion of the reservoir chamber, the piston having a bottom portion and at least one side portion, the piston having at least one hole on the side portion; and

a coupler, the coupler having a dispense chamber, the piston moving inside the coupler.

82. (New claim) A fluid dispenser as claimed in claim 81, wherein the piston does not have a hole in the bottom portion.

83. (New claim) A fluid dispenser as claimed in claim 82, wherein the piston moves from a first position to a second position, and

further comprising a seal, the seal abutting the at least one hole on the side portion in the first position.

84. (New claim) A fluid dispenser as claimed in claim 83, wherein the seal is an O-ring seal.

85. (New claim) A fluid dispenser as claimed in claim 83, wherein the seal is a quad seal.

86. (New claim) A fluid dispenser as claimed in claim 83, wherein the first position is when the piston is in its uppermost position.

87. (New claim) A fluid dispenser as claimed in claim 86, wherein the second position is when the barrel is pushed downward.

88. (New claim) A fluid dispenser as claimed in claim 81, wherein the piston has at least two holes on the side portion.

89. (New claim) A fluid dispenser as claimed in claim 81, wherein the piston is adjacent to the reservoir chamber,

90. (New claim) A fluid dispenser as claimed in claim 81, wherein the dispense chamber is adjacent to the reservoir chamber.

91. (New claim) A fluid dispenser as claimed in claim 81, wherein the valve is between the reservoir chamber and the piston.

92. (New claim) A fluid dispenser comprising:

a barrel having a piston, the piston having a bottom portion and at least one side portion, the piston having at least one hole on the side portion and having no hole in the bottom portion, the piston moving from a first position to a second position;

a seal; and

a coupler, the coupler having a dispense chamber, the piston moving inside the coupler,

wherein the seal abuts the at least one hole in the first position and wherein the seal does not abut the at least one hole in the second position.

93. (New claim) A fluid dispenser as claimed in claim 92, wherein the barrel further includes a reservoir chamber and a valve, the reservoir chamber containing fluid.

94. (New claim) A fluid dispenser as claimed in claim 93, wherein the valve is at a lower portion of the reservoir chamber and at an upper portion of the piston.

95. (New claim) A fluid dispenser as claimed in claim 94, wherein a pressure differential is created when the piston is in the first position, opening the valve.

96. (New claim) A fluid dispenser as claimed in claim 95, wherein fluid is dispensed when the piston is in the second position.

97. (New claim) Method for dispensing fluid from a fluid dispenser, the method comprising the steps of:

providing a fluid dispenser with a piston and a seal, the piston having a bottom portion and at least one side portion, the piston having at least one hole on the side portion and having no hole in the bottom portion;

moving the piston so that the at least one hole is exposed; and

moving the piston so that the at least one hole abuts the seal.

98. (New claim) The method of claim 97, wherein the step of moving the piston so that the at least one hole is exposed dispenses fluid.

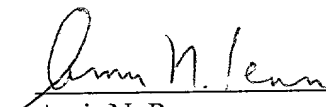
99. (New claim) The method of claim 97, wherein the fluid dispenser further comprises a reservoir chamber and a valve, the reservoir chamber containing fluid, the valve being at a lower portion of the reservoir chamber and at an upper portion of the piston, and

wherein a pressure differential is created when the piston is moved so that the at least one hole abuts the seal, thereby opening the valve.

**McDonnell Boehnen Hulbert & Berghoff**

Dated: 6/29/01

By:



Amir N. Penn

Reg. No. 40,767

Attorney for Applicant

**IN THE SPECIFICATION**

At page 2, line 2, please amend "This application is a continuation-in-part application to United States Patent Application Serial Number 08/909,335 (pending) filed on August 11, 1997.", to the following: -- This application is a continuation of U.S. Patent Application Serial No. 09/483,218 (pending) filed on January 14, 2000, which is a divisional of U.S. Patent Application Serial No. 08/995,052, filed on December 19, 1997, now U.S. Patent No. 6,045,759, which is a continuation-in-part application to United States Patent Application Serial Number 08/909,335 filed on August 11, 1997, now U.S. Patent No. 6,093,574.--

**IN THE CLAIMS**

81. (New claim) A fluid dispenser comprising:

a barrel having a reservoir chamber, a valve and a piston, the reservoir chamber containing fluid, the valve at a lower portion of the reservoir chamber, the piston having a bottom portion and at least one side portion, the piston having at least one hole on the side portion; and

a coupler, the coupler having a dispense chamber, the piston moving inside the coupler.

82. (New claim) A fluid dispenser as claimed in claim 81, wherein the piston does not have a hole in the bottom portion.

83. (New claim) A fluid dispenser as claimed in claim 82, wherein the piston moves

from a first position to a second position, and

further comprising a seal, the seal abutting the at least one hole on the side portion in the first position.

84. (New claim) A fluid dispenser as claimed in claim 83, wherein the seal is an O-ring seal.

85. (New claim) A fluid dispenser as claimed in claim 83, wherein the seal is a quad seal.

86. (New claim) A fluid dispenser as claimed in claim 83, wherein the first position is when the piston is in its uppermost position.

87. (New claim) A fluid dispenser as claimed in claim 86, wherein the second position is when the barrel is pushed downward.

88. (New claim) A fluid dispenser as claimed in claim 81, wherein the piston has at least two holes on the side portion.

89. (New claim) A fluid dispenser as claimed in claim 81, wherein the piston is adjacent to the reservoir chamber,

90. (New claim) A fluid dispenser as claimed in claim 81, wherein the dispense

chamber is adjacent to the reservoir chamber.

91. (New claim) A fluid dispenser as claimed in claim 81, wherein the valve is between the reservoir chamber and the piston.

92. (New claim) A fluid dispenser comprising:  
a barrel having a piston, the piston having a bottom portion and at least one side portion, the piston having at least one hole on the side portion and having no hole in the bottom portion, the piston moving from a first position to a second position;

a seal; and

a coupler, the coupler having a dispense chamber, the piston moving inside the coupler, wherein the seal abuts the at least one hole in the first position and wherein the seal does not abut the at least one hole in the second position.

93. (New claim) A fluid dispenser as claimed in claim 92, wherein the barrel further includes a reservoir chamber and a valve, the reservoir chamber containing fluid.

94. (New claim) A fluid dispenser as claimed in claim 93, wherein the valve is at a lower portion of the reservoir chamber and at an upper portion of the piston.

95. (New claim) A fluid dispenser as claimed in claim 94, wherein a pressure differential is created when the piston is in the first position, opening the valve.



96. (New claim) A fluid dispenser as claimed in claim 95, wherein fluid is dispensed when the piston is in the second position.

97. (New claim) Method for dispensing fluid from a fluid dispenser, the method comprising the steps of:

providing a fluid dispenser with a piston and a seal, the piston having a bottom portion and at least one side portion, the piston having at least one hole on the side portion and having no hole in the bottom portion;

moving the piston so that the at least one hole is exposed; and

moving the piston so that the at least one hole abuts the seal.

98. (New claim) The method of claim 97, wherein the step of moving the piston so that the at least one hole is exposed dispenses fluid.

99. (New claim) The method of claim 97, wherein the fluid dispenser further comprises a reservoir chamber and a valve, the reservoir chamber containing fluid, the valve being at a lower portion of the reservoir chamber and at an upper portion of the piston, and

wherein a pressure differential is created when the piston is moved so that the at least one hole abuts the seal, thereby opening the valve.